

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application. Applicant has submitted a new complete claim set showing marked up claims with insertions indicated by underlining and deletions indicated by strikeouts and/or double bracketing.

Listing of Claims

1–9. (Canceled)

10. **(Currently Amended)** A method ~~performed by a wireless network access device~~ for retrieving a virtual resource from a remote computer via a plurality of wireless network interfaces, comprising:

receiving via a local communications network at [[the]] a local network interface of a wireless network access device, from a local computing device coupled to the local communications network, an incoming request for the virtual resource, the virtual resource being a web page, wherein the virtual resource comprises a plurality of objects, the plurality of objects being elements of the web page;

determining a number of available wireless network interfaces of the plurality of wireless network interfaces of the wireless network access device, each of the available plurality of wireless network interfaces communicatively coupled to a distinct wireless network of a plurality of wireless networks that communicatively couple the wireless network access device to the remote computer;

determining a number of objects in the virtual resource sufficient to retrieve the virtual resource and return it to the local computing device;

Amendment Responsive to 5-28-2009 Office Action
Application Number: 19/695,928
Attorney Docket Number: 304931.01

assigning by the wireless network access device each object in the virtual resource to at least one of the available wireless network interfaces, at least one object in the virtual resource being assigned to a different available wireless network interface than another object in the virtual resource;

activating the available wireless network interfaces to which objects of the virtual resource have been assigned; and

transmitting from the wireless network access device an outgoing request to the remote computer for each object in the virtual resource, each outgoing request corresponding to the incoming request, wherein each outgoing request specifies is transmitted via the available wireless network interface assigned to which the corresponding object in the virtual resource is assigned, and wherein [[the]] each object[[s]] in the virtual resource [[are]] is downloaded from the remote computer in a conventional manner, responsive to the outgoing requests, from the remote computer to the wireless network access device via the corresponding assigned available wireless network interface[[s]], the method being performed by a processor of the wireless network access device, wherein the wireless network access device is an individual device that includes the plurality of wireless network interfaces, the local network interface, and the processor, the local network interface distinct from any of the plurality of wireless network interfaces.

11. (Canceled)

12. (Original) The method of claim 10, wherein determining a number of available wireless network interfaces comprises monitoring one or more characteristics of a wireless network interface.

AMENDMENT

13. **(Currently Amended)** The method of claim 10, wherein determining a number of available wireless network interfaces comprises monitoring one or more characteristics of a wireless network interface, wherein a signal characteristic is selected from [[the]] a group of signal characteristics comprising: signal-to-noise ratio, available bandwidth, congestion, signal strength, connection cost, and bit error rate.
14. **(Original)** The method of claim 10, wherein determining a number of available wireless network interfaces comprises monitoring one or more characteristics of a wireless network interface stored in a data table in memory.
15. **(Original)** The method of claim 10, wherein determining a number of available wireless network interfaces comprises querying the wireless interfaces.
16. **(Previously Presented)** The method of claim 10, wherein the determining a number of objects in the virtual resource comprises querying the remote computer.
17. **(Previously Presented)** The method of claim 10, wherein the assigning comprises assigning an object to two or more of the available wireless network interfaces if the size of the object exceeds a threshold.
18. **(Currently Amended)** The method of claim 10, wherein the assigning comprises assigning an object to two or more available wireless network interfaces if the size of the object exceeds a threshold, wherein the threshold is a function of the bandwidth of the available wireless network interfaces.

Amendment Responsive to 5-28-2009 Office Action
Application Number: 19/695,928
Attorney Docket Number: 304931.01

AMENDMENT

19. (Previously Presented) The method of claim 10, wherein the assigning comprises assigning an object to two or more available wireless network interfaces if the size of the object exceeds a threshold, wherein the threshold is a function of the size of an object relative to the size of other objects in the virtual resource.
20. (Currently Amended) The method of claim 10, further comprising:
~~receiving the each object in the virtual resource over the corresponding assigned available wireless network interfaces; and~~
collating the received objects to construct the virtual resource.
21. (Currently Amended) The method of claim [[10]] 20, further comprising: transmitting the collated virtual resource to the computing device that originated the incoming request.
22. (Original) A computer-readable medium having computer-executable instructions for performing the method recited in claim 10.
23. (Currently Amended) An apparatus, comprising:
at least one local communication network interface for receiving a request for a virtual resource, the virtual resource being a web page, wherein the virtual resource comprises a plurality of objects, the plurality of objects being elements of the web page;
a plurality of wireless network interfaces, each of the plurality of wireless network interfaces communicatively coupled to a distinct wireless network of a plurality of wireless networks that communicatively couple the apparatus to a remote computer;
a memory module; and
a processor executing logic instructions that cause the apparatus to:

Amendment Responsive to 5-28-2009 Office Action
Application Number: 19/695,928
Attorney Docket Number: 304931.01

determine a number of available wireless network interfaces of the plurality of wireless network interfaces of the apparatus ~~wherein the apparatus is a wireless network access device~~, each of the available plurality of wireless network interfaces communicatively coupled to a distinct wireless network of [[a]] the plurality of wireless networks that communicatively couple the apparatus to [[a]] the remote computer including the virtual resource;

determine a number of objects in the virtual resource sufficient to retrieve the virtual resource and return it to the local computing device;

assign each object in the virtual resource to at least one of the available wireless network interfaces, at least one object in the virtual resource being assigned to a different available wireless network interface than another object in the virtual resource; and

transmit an outgoing request to the remote computer for each object in the virtual resource, wherein each outgoing request specifies the available wireless network interface assigned to the corresponding object in the virtual resource, each outgoing request corresponding to the incoming request, and wherein [[the]] each object[[s]] in the virtual resource [[are]] is downloaded from the remote computer in a conventional manner, responsive to the outgoing requests, ~~from the remote computer to the wireless network access device apparatus~~ via the corresponding assigned available wireless network interfaces, wherein the apparatus is an individual device that includes the plurality of wireless network interfaces, the local network interface, and the processor, the local network interface distinct from any of the plurality of wireless network interfaces.

AMENDMENT

24. (Original) The apparatus of claim 23, wherein the at least one local communication network interface comprises a wireless network interface.
25. (Canceled)
26. (Original) The apparatus of claim 23, wherein the processor polls the wireless network interfaces to determine characteristics of the communication connections managed by the wireless network interfaces.
27. (Previously Presented) The apparatus of claim 23, wherein the processor polls the plurality of wireless network interfaces on a periodic basis to determine characteristics of communication connections managed by the plurality of wireless network interfaces.
28. (Previously Presented) The apparatus of claim 23, wherein the processor polls the plurality of wireless network interfaces in response to a received request to determine characteristics of communication connections managed by the plurality of wireless network interfaces.
29. (Original) The apparatus of claim 23, wherein the processor assigns objects to wireless network interfaces according to an algorithm that maximizes bandwidth.
30. (Original) The apparatus of claim 23, wherein the processor assigns multiple wireless network interfaces to objects that exceed a size threshold.

Amendment Responsive to 5-28-2009 Office Action
Application Number: 19/695,928
Attorney Docket Number: 304931.01

AMENDMENT

31. (Original) The apparatus of claim 23, wherein the processor assigns multiple wireless network interfaces to objects that exceed a size threshold that is a function of the available bandwidth on one or more wireless network interfaces.

32. (Previously Presented) The apparatus of claim 23, wherein the processor assigns multiple wireless network interfaces to objects that exceed a size threshold that is a function of the size of an object relative to other objects in a virtual resource.

33. (Previously Presented) The apparatus of claim 23, wherein the processor is further configured to receive requested objects transmitted across at least some of the plurality of wireless networks.

34. (Canceled)

35. (Previously Presented) The apparatus of claim 23, wherein the processor is further configured to receive requested objects transmitted across at least some of the plurality of wireless networks, and to transmit received objects over the local communication network interface.